Annual Update

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HRSD Reports Progress on Sanitary Sewer Overflow (SSO) Reduction Program

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Brown and Caldwell

HRSD held its annual meeting to review the status of the Regional Wet Weather Management Plan (RWWMP) on January 23, 2018. The public was invited to attend this session, which included information about the extensive cooperation between HRSD and the localities it serves. The wastewater system in the Hampton Roads region includes city- and county-owned (also known as locality-owned) local sewer collection systems and pumping stations, as well as HRSD-owned regional pipelines, pumping stations and treatment plants.

HRSD is engaged in a multi-year effort to reduce sanitary sewer overflows (SSOs) in the Hampton Roads area. These overflows occur when the system is overloaded with excess storm water or groundwater that enters the system during rain events, or when pipes or pumps fail due to unexpected mechanical problems or pipe breaks. The SSO reduction program includes wide-scale monitoring of wastewater flows, pressures and rainfall, development of a computer model of the pipe network, inspection and, when needed, repair of the system's many assets (pipes and pumping stations), and development of a RWWMP. The RWWMP identifies projects to enhance the capacity of the regional system and reduce the occurrence of SSOs.

In 2017, HRSD has continued implementing the tasks in the Fourth Amended Consent Decree with the United States Environmental Protection Agency (EPA) and Virginia Department of Environmental Quality (DEQ) with submittal of an Integrated Plan/RWWMP on September 29, 2017.

Following completion of the Alternatives Analysis Report in August 2016, which reviewed options and costs for SSO reduction, HRSD spent much of 2017 refining the solutions and developing an Adaptive Regional Plan. This plan is based on the EPA's Integrated Planning Framework and incorporates the Sustainable Water Initiative for Tomorrow (SWIFT). SWIFT will purify water from several of HRSD's treatment plants and inject it into the ground to restore the Potomac Aquifer. SWIFT will also substantially reduce the nutrients currently being discharged to the Chesapeake Bay. Because of the many environmental benefits offered by SWIFT, HRSD has proposed prioritizing this investment before most of the work on the RWWMP.

HRSD has evaluated the RWWMP solution set to find the most beneficial projects for SSO mitigation and has selected approximately $200 million worth of high-priority RWWMP projects to be completed while SWIFT is constructed through 2030. In addition, the Adaptive Regional Plan includes a Pathogen Source Tracking program with funding to identify and correct defects in HRSD and locality sewer infrastructure found to have leaks during dry weather conditions.

Following the completion of these important programs, a Final Remedial Measure Plan will be developed in 2030 to evaluate the status of the system, flows, and SSOs, and direct funding to projects that provide the greatest environmental benefits, factoring in regional environmental priorities.

This Adaptive Regional Plan is an environmental and economic necessity and is consistent with EPA policy and guidance on adaptive management and integrated planning. HRSD will spend $2 billion by 2030, addressing the most pressing and important environmental challenges that the region faces and create significant environmental benefits.

Visit the RWWMP Web page at HRSD.com for:

- Background information
- Related news articles
- Public presentations and
- Other related information

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Find out more about the Sustainable Water Initiative for Tomorrow: swiftva.com

For information on everything green in Hampton Roads: askHRgreen.org

From Used to Useful

The Ultimate Form of Recycling

Sarah Crawford
HRSD Community Educator

Most people think what ends up at a wastewater treatment plant is exactly that – waste. Something that is worthless. Now, I admit it is smelly and gross. I've stood at the headworks of one of our larger plants, the place where sewage first enters to be treated and where big bar screens trap and filter out all of the large pieces of trash that somehow got down into the sewers. It's not pretty. I may or may not have gagged. So when I say it's smelly and gross, I speak from personal experience. How could anything useful come out of that? There is nothing left to be reused or recycled, right? Wrong.

When I talk about wastewater, AKA sewage, I'm not just talking about your toilet flushes. Sinks, showers, washing machines, dishwashers, restaurants, and other businesses all drain to the sanitary sewer system, which is a collection of pipes and pumps that send all that dirty water to our wastewater treatment plants to be cleaned. And all that dirty water adds up to about 150 million gallons a day. Still sounds like "waste," I know, but it's actually full of resources and resources can be reused as long as they can be recovered. That's why wastewater treatment plants across the country are being renamed for what they actually are – resource recovery facilities. It's not just about treating dirty water; it's about REUSING and RECYCLING. Here are a few ways HRSD is recovering resources:

1. **Nutrients** – HRSD partners with Ostara Nutrient Recovery Technologies to recover phosphorous from sewage and turn it into an environmentally-friendly commercial fertilizer right here in Suffolk. It's called Crystal Green® and its slow-release formula reduces fertilizer runoff as an added bonus. But it gets even better. Crystal Green® is made from struvite, a concrete-like material that builds up on the inside of sewage pipes and causes clogs. Not only are we reducing nutrients going into our waterways by removing them from the wastewater, but we're creating something useful from something that is normally a big and costly pain-in–the-you-know-what.

2. **Energy** – In Virginia Beach, HRSD's Atlantic Treatment Plant Combined Heat and Power System generates renewable power and heat from gas produced during the plant's treatment process. This system meets about half of the plant's electricity demand and produces enough electricity to power 1,200 homes for a year. And P.S., cleaned water at this plant is sent into the Atlantic Ocean about 1.5 miles offshore, but a portion of it is routed through heat exchangers at the Dam Neck Naval Facility to provide energy-efficient building heating and cooling.

3. **Water**– The wastewater that flows to our plants every day is treated and then the cleaned water is sent into local waterways to be reused in the environment. But we decided we could do better than that. HRSD's Sustainable Water Initiative for Tomorrow (SWIFT) will take highly treated water that would otherwise be discharged into local rivers and put it through additional rounds of advanced water treatment to meet drinking water quality standards. The SWIFT Water will then be added to the Potomac Aquifer, the primary source of groundwater throughout eastern Virginia. This will not only replenish our dwindling groundwater supply, but help the Bay by reducing the nutrients we currently discharge into local rivers, and help fight the impacts of sea level rise.

Our SWIFT Research Center is currently under construction. Check swiftva.com for updates and to learn more.

Producing SWIFT Water at the SWIFT pilot facility in Seaford.

Meat Water: Not A Thing

Sarah Crawford
HRSD Community Educator

I've been a Community Educator with HRSD for about five years and I love what I do. I get to teach people how HRSD cleans dirty water and why clean water is important, create interactive activities to bring to schools, and blog about my experiences on Let's Talk Green. At this point, most of my friends and family know what not to flush because it's one of my favorite soap boxes to stand on. Encouraging civic engagement is my jam. I even convinced my brother to stop hurling his used turkey fryer oil over the fence. Community Educator win.

But then, it happened. One ordinary night my husband and I were cleaning up after dinner and out of the corner of my eye I saw him leaning over the kitchen sink with the pan he had cooked the beef in that night. No, I thought. He can't be. He wouldn't…

Me: What are you doing?

Husband: Huh? Just…

Me: Are you pouring that grease into our sink?!

Husband: What? No, it's not grease, it's meat water.

Me: MEAT WATER?! Meat water is not a thing. There is no such thing as meat water.

Husband: Yes, this is meat water. It's not grease. Bacon makes grease. This is more like water.

Me: HAVE YOU LOST YOUR MIND?! You can't pour that down the drain. Do you ever listen to anything I say? I spend a lot of time telling people to keep grease out of their drains, and now you, my own husband, my sink. That clogs pipes, causes sewage spills! *Throws hands in air*

Husband: It's MEAT WATER! Meat water doesn't clog pipes.

Me: THERE IS NO SUCH THING AS MEAT WATER!

I could continue but we just started to talk in circles at this point. Community Educator FAIL. Apparently, my messages are sometimes lost on the ones closest to me. And this is the same sink I have blogged about in the past, a sink that my husband installed WITHOUT a garbage disposal because garbage disposals send too much gunk into the pipes and contribute to clogs and sewage spills. He knows that part. He scrapes his leftovers into the trashcan and compost bin like a champ.

So here goes. For my husband and everyone else I have failed to reach. Fats, Oils, and Grease (FOG) DO NOT GO DOWN THE DRAIN. That includes any leftover residue from cooking meat. Even if it looks "watery." It's not meat water. Meat water does not exist. Google it.

It turns out, I'm not alone. My friend Molly is also an environmental steward who caught her husband not using the kitchen sink strainer. He didn't think he needed to since he scrapes all of the large pieces of food in the trash. But what about the teeny tiny pieces? If our husbands lived together, they would have some hefty bills from the plumber. The FOG sent down the drain would cling to the pipe walls and catch all of those teeny tiny pieces and eventually make a big ol' clog. And there's more. She also caught her husband (why is it always the husbands?) leaving grass clippings on the sidewalk because "the rain will wash it away into the storm drain." And not just any storm drain. A storm drain that resides on the worst-hit street in the state of Virginia by Hurricane Matthew. Their house flooded, their floors floated, they evacuated in the middle of the night. Everyone on their street is all too familiar with the stormwater system and how important it is to keep things flowing. PLUS, grass clippings pollute our waterways with excess nutrients. Our husbands are both smart people, but it seems we've overlooked them in our quest to save the world

We all need reminders now and then, so please, take this home with you today:

Meat water is not real. Fatbergs are real.
Google it. Then educate your spouses.

Regional Wet Weather Management Plan

Annual Update

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Locality Team Participants

Chesapeake
Gloucester
Hampton
Hampton Roads Planning District Commission
HRSD
Isle of Wight
James City Service Authority
Newport News
Norfolk
Poquoson
Portsmouth
Smithfield
Suffolk
Virginia Beach
Williamsburg
York County

Help Protect Our Waterways by Reporting Suspected Sanitary Sewer Overflows (SSOs)

Please call the number listed for your locality if you observe an SSO.

Locality	During Business Hours	After Business Hours
Chesapeake Public Utilities	757-382-6352	757-382-3550
Gloucester Public Utilities	804-693-4044	804-693-3890
Hampton Public Works	757-727-8311	757-727-8311
Isle of Wight Public Utilities	757-365-6284	757-357-2151
James City Service Authority	757-229-7421	757-566-0112
Newport News Public Works	757-933-2311	757-933-2311
Norfolk Public Utilities	757-823-1000	757-823-1000
Poquoson Public Works	757-868-3590	757-868-3501
Portsmouth Public Utilities	757-393-8561	757-393-8561
Suffolk Public Utilities	757-514-7000	757-514-7000
Town of Smithfield Public Works	757-365-4200	757-357-2151
Virginia Beach Public Utilities	757-385-1400	757-385-3111
Williamsburg Public Works and Utilities	757-220-6140	757-220-2331
York County Public Works	757-890-3750	757-890-3773